

ACHIEVING MULTIPLE BENEFITS THROUGH A UNFCCC MECHANISM ON REDUCING EMISSIONS FROM DEFORESTATION

Valerie Kapos, Lera Miles*, Peter Herkenrath

UNEP World Conservation Monitoring Centre, 219 Huntingdon Road, Cambridge, CB3 0DL, UK. lera.miles@unep-wcmc.org

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SUMMARY

The United Nations Framework Convention on Climate Change (UNFCCC) is currently discussing the development of a mechanism for reducing emissions from deforestation in developing countries (RED). An effective RED mechanism could provide an unprecedented opportunity to contribute towards the goals of a range of multilateral environmental agreements and mechanisms, including the Convention on Biological Diversity (CBD), by helping to ensure that forests continue to provide vital ecosystem services, conserve biodiversity, and enhance livelihoods. The design and implementation of the mechanism will affect the degree to which these other benefits are obtained.

REDUCING EMISSIONS FROM DEFORESTATION

Global greenhouse gas emissions from changes in land use, including tropical deforestation are estimated to be between 18% (Stern 2006, IPCC 2007) and 25% of annual global emissions from all sources (Santilli *et al.* 2005). Discussions to consider potential mechanisms to limit this key contribution to global warming are in progress under the UNFCCC. Reducing emissions from deforestation (RED) is a distinct topic from carbon sequestration through increasing forest cover within these discussions, because the former concerns emissions and the latter, sinks. Possible mechanisms range from a fund to support individual RED projects through to a carbon-trading scheme based on national-scale accounting. Such a fund or scheme could form part of a broader “post-Kyoto” agreement on greenhouse gas emissions from 2012, with capacity building and pilot activities being proposed in the period up to 2012.

While no specific RED mechanism has yet been agreed, it is likely to focus on the reduction of emissions, measured in tonnes of CO₂, rather than of deforestation, measured in hectares of forest. As forests and other ecosystems vary in their carbon content, including that stored in biomass, soils and other compartments (FAO 2006a), there is no linear correlation between net loss of forest and the quantity of CO₂ emitted. The method of deforestation and the subsequent land use also affect the quantity of stored CO₂ that is released. Large carbon emissions can also be generated by tree removal and other degradation processes that do not cause deforestation according to current UNFCCC definitions (Mollicone *et al.* 2007). Any agreement on RED will need to specify whether such emissions are included. Other issues to be resolved include the treatment of countries whose deforestation rates are currently low, but which might be susceptible to deforestation if not involved.

OPPORTUNITIES FOR MULTIPLE BENEFITS

Many multilateral environmental agreements and processes have objectives that are directly and/or indirectly linked to maintenance of healthy forest ecosystems (Table 1). Most recognize climate change as a major factor affecting their focal concerns, and some recognize the importance of forests for carbon storage. Only UNFCCC focuses on carbon storage as an objective. Many actions being taken under these agreements and processes already limit deforestation and have the potential to contribute to RED, and many of their objectives may be supported by progress towards RED.

Within the CBD, forests are addressed in detail by the Expanded Programme of Work on Forest Biological Diversity. In addition, the indicators of progress towards the CBD 2010 biodiversity target on reducing the rate of biodiversity loss include changes in (i) the extent of ecosystems such as forests; (ii) the area of forest under sustainable management; (iii) trends in ecosystem integrity and ecosystem goods and services, and specifically in the fragmentation or connectivity of forest ecosystems. All of these indicators could be affected positively by the implementation of a RED mechanism.

The goods and ecosystem services provided by forests underpin the livelihoods of millions of people, and especially the rural poor. Careful implementation of RED could therefore help to secure and enhance the livelihoods of vulnerable people. Where forests are retained, the services they provide may also have strong influences on other ecosystems. Thus, for example, retaining forests in mountain catchments and around headwaters can not only help to ensure consistent water yields of high quality, it can contribute to the health of aquatic and wetland ecosystems and their abilities to provide ecosystem services in turn.

The actions that Parties are likely to take on RED fall into three broad categories, which are equally relevant to deforestation and degradation: (i) actions that aim to limit the drivers of deforestation, including extractive activity, infrastructure development, and agricultural expansion, as well as programmes on societal and livelihood needs; (ii) forest protected areas or community conservation areas; and (iii) sustainable forest management in production forest. Each of these actions can have multiple benefits, and decisions taken at all levels on implementation will influence the achievement and magnitude of these benefits.

It is important to recognise that efforts to reduce rates of deforestation can also be associated with risks to ecosystem services, depending on the drivers of land use change that are causing forest loss. For example, if the drivers of land use change (such as agricultural or urban development) are strong enough and are insufficiently addressed in efforts to retain forest cover, this land use change may be shifted to other ecosystems, such as wetlands or grasslands. This kind of shift might then adversely affect the goods and services provided by these ecosystems. Thus important biodiversity may be lost from these other ecosystems, water quality may be prejudiced (in the case of wetlands), or cultural values may be lost. Furthermore, the shifts may even have implications for carbon storage if the affected ecosystems have high carbon storage capacity (e.g. peatlands) and especially if the conversion process includes fire. Carefully integrated cross-sectoral planning and decision-making can help to avoid these adverse impacts.

References

- FAO (2006a). Global Forest Resources Assessment 2005. Progress towards sustainable forest management. *FAO Forestry Paper 147*. Food and Agriculture Organization of the United Nations, Rome, Italy.
- IPCC (2007). *Climate Change 2007: The Physical Science Basis. Summary for Policymakers*. Intergovernmental Panel on Climate Change, Bonn, Germany.
- Mollionne, D., Achard, F., Federici, S., Eva, H.D., Grassi,G., Belward,A., Raes, F. Seufert, G., Stibig, H.-J., Matteucci, G. and Schulze, E.-D. (2007). "An incentive mechanism for reducing emissions from conversion of intact and non-intact forests". *Climatic Change* in press.
- Santilli, M., Moutinho, P., Schwartzman, S., Nepstad, D., Curran, L., Nobre, C. (2005). "Tropical Deforestation and the Kyoto Protocol". *Climatic Change* 71(3):267-276.
- Stern, N. (2006). *The Economics of Climate Change - The Stern Review*. Cambridge University Press, Cambridge, U.K.

TABLE 1: Multilateral agreements and processes that include forest-related objectives

Instrument	Example forest-related objective(s)
United Nations Framework Convention on Climate Change (UNFCCC)	Reduction in emissions resulting from deforestation
International Tropical Timber Agreement (ITTA)	Sustainable supply of timber
United Nations Forum on Forests (UNFF)	Sustainable forest management
Convention on Biological Diversity (CBD)	Conservation and sustainable use of forest biodiversity
United Nations Convention to Combat Desertification (UNCCD)	Maintenance and restoration of forest cover as a means of reducing effects of desertification
Ramsar Convention on Wetlands of International Importance	Conservation and wise use of forest wetlands
Convention on Migratory Species (CMS)	Conservation of migratory species using forest habitats
World Heritage Convention	Protection of identified forests representing heritage of outstanding universal value
Millennium Development Goals (MDGs)	Ensuring environmental sustainability and reversing the loss of forest-related resources
Commission on Sustainable Development (CSD)	Promoting the role of forests in sustainable development
World Summit on Sustainable Development (WSSD)	Support for the forest-related components of other instruments

